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South African Rural University Students' Experiences of Open Distance E-Learning Support

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Abstract. South Africa, like many developing countries, has rural areas which suffer from a scarcity of resources and tools required to enable open-distance e-learning. Universal approaches often sideline these communities and the like. The aim of this empirical study was to look at the experiences of rural online students with a lens of openness (widening access) to comprehend their experiences of online support in the Open Distance e-Learning support context. This study followed a descriptive and qualitative case study, which employed individual interviews. The study involved (15) rural participants from University of South Africa. Findings revealed that there were many challenges associated with online learning for rural students. However, the use of cell phones by participants to access online materials and connect to online classes helped widen access to this group of students faced with scarcity of resources and infrastructure. Participants preferred to use cell phones because cell phones easily connect to the internet when compared to computers because cell phones require less bandwidth connection. Additionally, cell phones build a sense of community amongst the participants through the social media platform. Accordingly, the students were enthusiastic and were motivated about working online in the Open Distance e-Learning (ODeL) environment. Therefore, cell phones have a potential to widen access for developing under-resourced communities. Hence, the study emphasises the importance of tailored online support programmes for diverse group of students for ODeL to be considered equivalent to traditional learning. Universities must not presume the culture of use and access for students without background considerations.

Keywords: rural students; open distance e- learning; learning management system; online support

1. Background of the study

All over the world there is an increasing demand for tertiary education, as a result there is also a lot of competition to get access to higher education. Consequently, Universities globally are struggling to meet the online learning demand (Nyerere,

2012). The success of every nation's effort in economic, social justice, political, and technological development hugely relies on its ability to make education accessible to all citizens (Erima & Maringe, 2021). Moreover,the amount of candidates seeking to be assimilated by higher learning institutions surpasses the number of spaces or capacity traditional universities have (Nyerere, 2012). This has compelled tertiary institutions to re-imagine modes of delivering education. This means they need to rethink the conventional teacher-centred pedagogies and face-to-face modalities. The common mode that has gained momentum across all tertiary institutions is Open Distance e-Learning (ODeL). ODeL has become a central learning platform in higher education across the globe (UNESCO, 2002). Open and distance e-learning (ODeL) entails "the opening access to education and training provision, delivering learners from the limitations of time and place, and offering flexible learning opportunities to individuals and groups of learners'' (UNESCO, 2002, p. 7). Open Distance e-Learning (ODeL) refers to policies and practices that offer access to students irrespective of their age, race, class, and background, and it allows for flexible hours and recognises prior learning (Gesinde & Akinwale, 2014). Open Distance e-Learning is a vehicle through which those who do not have access to mainstream, traditional campus-based education, such as those under-resourced, are challenged in terms of literacy, physical disability, women, and those living in remote areas are reached (Kgobe & Sebola, 2021). Open Distance e-Learning mediates the physical distance between the student, university, and other students which is done through information communications technologies (ICTs) (Heredia et al., 2019). Subsequently, since its (ODL's) evolution from correspondence that used postal services to the use of ICTs, Open Distance Learning has come to be known as Open Distance e-Learning.

Historically, in African countries, education used to be only accessible to the elite few. The reasons are different for different countries, amongst which are colonisation, apartheid, and political wars. (Nyerere, 2016). South Africa is one of those African countries that suffered greatly during the apartheid. Ngubane-Mokiwa (2017) states, "Access" to education was only limited to the elite few while most black South Africans were marginalised. Apartheid was, amongst other things, a political, economic, and literacy exclusion of blacks by whites who were in government before 1994 in South Africa. At the genesis of democracy policies like The White Paper on Education and Training of 1995 were put in place to redress those past imbalances by widening access. It is against this background that the researcher undertook to look at the openness of distance e-learning support through the lens of marginalised communities of rural students in KwaZulu-Natal (a province in South Africa), this study focused on University of South Africa as a leading Open Distance e-Learning institution on the African continent. To effectively measure the success of open distance e-learning and higher education's adherence to The White Paper on Education and Training of 1995 as mentioned above, it is better is to investigate the rural students' experiences of Open Distance e-Learning support, as the legacy of apartheid is unfortunately still visible in those areas. According to Dube (2020), rural communities suffer from the dearth of access to socio-economic conveniences,

such as quality education, transport, decent health services, libraries, internet cafes, and even electricity. This has been worsened by the advent of coronavirus.

Murphy (2020) stated that, because of pandemic disease Corona Virus (COVID-19), there have been significant changes regarding social interaction in organisations. The spread of COVID-19 presented challenges in the higher education sector which saw most traditional universities in South Africa migrating to distance online learning. University of South Africa (UNISA), despite being a complete ODeL institution, was also not spared from this disruption as it meant that all their exams that used to be venue-based before COVID-19 had to be conducted online (Zwane & Mudau, 2023). The South African government imposed regulations that restricted access to centres such as libraries and UNISA campuses, which greatly affected under-resourced rural students (Zwane & Mudau, 2023). Mashile et al. (2020) proposes that institutions must develop an understanding of students' individual and collective needs to create an environment conducive to achieving academic success.

Machika (2013) states that the problem is universal assumptions regarding online students. Universities tend to develop a blanket support system that excludes and marginalise those who do not fit the underlying assumptions. Consequently, this study sought to understand the experiences of rural students who may be negatively impacted by these assumptions. Rural students are presumed to have access to the internet, computers and other assistive devices, and computer skills, the reality is these students lack all the afore-mentioned due to their background (Dube, 2020).

There is a contradiction among other Open Distance e-Learning (ODeL) researchers such as Söderström et al. (2012) who argue that ODeL broadens access to include those who work full time, and those who are disenfranchised, and that it also lowers the teaching costs. Contrary to this, Awal et al. (2020), in their study investigating the effectiveness of online learning during COVID-19, found that online learning was inefficient. They perceived it to be an effective to the COVID-19 crises, but wanting in ensuring learning outcomes are met because of costs associated with it. Subsequently, this study sought to understand the experiences of rural students regarding online support (e-tutors, discussion forums on University of South Africa Learning Management System (LMS), support facilities, and more) in the Open Distance e-Learning environment with a special focus on openness. This empirical study will assist in understanding the challenges faced by this marginalised group of students who may be presumed to have access, and it will shape solutions that will assist rural students in general.

2. Literature Review

In developed countries Open Distance e-Learning widens access to groups of students who are perceived to be disenfranchised in higher education and considering different needs of diverse groups from different backgrounds, that is with different race, gender and age cohorts, and rural areas/under-resources areas (Mashile et al., 2020). However, for developing countries things are different, they still trail behind the developed countries in terms of technologies,

networks and connections (Deb, 2011). This study looked at literature from Europe, Asia, and Africa in general to contextualise ODeL in South Africa.

Internationally, European tertiary institutions are pioneers of ODeL and represents those developed countries where strides have been made in providing Open Distance e-Learning and extending access to the masses (UNESCO, 2014). It is for this reason that South Africa and other African countries use Europe as a yardstick for Open Distance e-Learning developments. Simpson (2012) argues that despite the strides made in European Open Distance e-Learning, there is a spectre in the world of online education which is student dropout. Open Distance e-Learning institutions like the United Kingdom Open University (UKOU) are prone to experience higher rates of dropouts as a result of admitting students with lower previous entry qualifications (Sánchez-Elvira Paniagua and Simpson, 2018). They argue that students in Open Distance e-Learning are usually older than traditional students and always have competing priorities that require their attention in their families. While there could be other contributing factors, student support is a significant prominent factor for this challenge (Sánchez-Elvira Paniagua & Simpson, 2018.). To address the said transformation in learning, the European Association of Distance Teaching Universities (EADTU) launched the EMPOWER project in 2015 so that it could share the expertise of distance education universities in the field. The European Commission (2011) defines EADTU as Europe's leading institutional association for open and distance tertiary education central to the transformation agenda of European universities. It covers over 200 million universities across 25 nations. The European Commission (2011) states that The EMPOWER project launched by EUDTU is organised in twelve areas. Its goal is to provide student support by equipping students to be life-long, self-directed students in ODeL.

In Asia, tertiary education systems are increasing to include more students at undergraduate and post-graduate levels, and now progressively concentrating more on continuous advancements of education (UNESCO, 2014). China, like most countries in Europe, is in a period of flourishing development in terms of distance higher education (Zawacki-Richter & Qayyum, 2019). China and South Africa, have similarities in terms of economies, and politically, both give all government power to a single party. Distance higher learning has transformed China's higher education moving it from an elite system to popular system (Zawacki-Richter & Qayyum, 2019). Their innovations in technology have assisted China to develop quicker in Open Distance e-Learning and higher education, for example, The National Education Plan (2010, p.44) states that, "improving online higher education and Information and Communications Technology (ICT) has the ability to satisfy the diverse and personalised learning demands of the public and contribute to the creation of an open and flexible life-long education system". However, the student group of online higher education in China is varied, consisting of college-age youths, farmers, workers, the elderly, the disabled and ethnic minority groups (Zawacki-Richter & Qayyum, 2019). Despite all these successes, the Chinese government is still finding it difficult to monitor the quality of Open Distance e-Learning systems and assist the sector to be well-ordered (Gaba & Li, 2015). China's biggest ODeL university, the Open

University of China (OUC), like many universities, has a high dropout rate (Zawacki-Richter &Qayyum, 2019). China and European universities may have dropout challenges in common, but unlike South Africa, they are not subjugated by funding challenges.

Pakistan, on the other hand, just like South Africa, still has imbalanced access to higher education regarding gender, economic and social status, residential location, and digital divides. Pakistan has low participation rates for the youth age cohort. Furthermore, policies on broadening participation in higher education will also require serious regard for many other groups besides those described so far (Asian Development Bank, 2012). Pakistan's challenges resemble those of many African countries.Maritim et al. (2012) argue that when colonisation and apartheid ended in African countries, the new African leadership concentrated on tertiary education as a solution for socio-economic development of the continent. This would require the African leaders to revamp tertiary education from an "elite" to "mass" education. The new actualities of liberation in the Southern African Development Community (SADC) region and other African countries demanded widening access and equality in tertiary education. Subsequently, the SADC presidents signed the Protocol on Education and Training deal in 1997. It recognises ODeL as a driver in the extension of access and equity in tertiary education for non-traditional learners and trainees (Maritim et al., 2012). In West Africa, Regional Training and Research Institute for Distance and Open Learning (RETRIDAL) was founded to create a regional and international network of ODeL trainers and researchers (Amini & Oluyide, 2016). Unlike in Europe and some parts of Asia like China, many developing countries still live in settings with networking challenges, online learning assistive devices shortages which make them feel alienated and lack confidence in studying (Toquero, 2020).

In South Africa, University of South Africa (UNISA) is the biggest university on the African continent operating in the space of Open Distance e-Learning, it is amongst the largest providers of Open Distance e-Learning in the world (Nyerere, 2016). The university's programmes provide access to higher education for many working adults and rural students who were formerly left out through racially motivated policies (Mahada, 2011). Authors like Kgobe and Sebola (2021); Many researchers seem to agree that while ODeL has some challenges, it has succeeded in widening excess to the previously disenfranchised (Herdia et al. (2019); Ngubane-Mokiwa (2012); and Nyerere (2016). UNISA uses the Learning Management System (LMS), which is a student support platform from which e-tutoring, material sharing, communication, and discussion forums, amongst other things, are accessed. The University of South Africa's Learning Management System (LMS) supports both synchronous and asynchronous e-learning. According to Zeng and Luo (2023), Synchronous online learning demands that lecturers and students converge at the same time for real-time interaction (e.g., webinars or video conferencing). Contrastingly, asynchronous e-learning does not demand that lecturers and students converge in the same place, students at their convenience can access learning materials (e.g., PDFs, recorded voice notes, or recorded lessons. Lehong (2019) argues that LMSs are effective in fostering online participation and providing a platform for the lecturers and students to

converge and have access to one another. Additionally, Lehong (2019) states that studies carried out by Ssemugabi and De Villiers that tested the usability of the university's Learning Management Systems (LMS) concluded that they are usable but not optimally. These could be used better in improving the quality of Open Distance e-Learning (ODeL) if they could be integrated with social media like WhatsApp and Facebook, (Mbatha ,2014). Additionally, studies carried out in other developing countries like Brazil with the same setting as countries like Pakistan and South Africa also noted the prevalent use of cellphones with a recommendation that study materials be designed as well in formats compatible with cellphones (Heredia et al., 2019).

Student success relies on the university's ability to interact with the student and be aware of the student's background and characteristics (Subotzky & Prinsloo, 2011). The online interaction between the student and the institution is facilitated by the technological assistive devices which connect using the internet, and for rural students and other marginalised communities, which is still challenging as South Africa is bombarded by poor communications infrastructure challenges in the rural areas (Mashile et al, 2020). In the Open University in the United Kingdom, instructors develop study materials and neglect to interact with students online, and neglect to appoint e-tutors to facilitate students' online support (Heredia et al., 2019). The same system is used by Athabasca University in Canada (Ives & Pringle 2013). Similarly, the University of South Africa also employs the same system where e-tutors are equipped to develop e-activities to facilitate online support for students and they take a more personalised approach (Mashile, 2013). Information and Communications Technology (ICT) and other related assistive technologies have been a glimmer of light for students with disability as it allows them to access learning and educational materials they previously could not access (DISA,2012). Regarding Open Distance e-Learning (ODeL), Information and Communications Technology (ICT) plays a crucial role in providing students with a disability such as the visually impaired access to education and learning materials. In South Africa, University of South Africa is the largest Open Distance e-Learning institution on the continent as it caters to over five hundred students with visual impairments (Department of Institutional Statistics and Analysis (DISA, 2012). These numbers are still on the increased.

The services that students with disability can now access, amongst others, include digitally enlargeable (Zoom Text) and voice-synthesizable library books, voice-readable graphics, and computer monitors that allow the font size and color to be changed for clarity. Students with visual impairment can also use the internet to access information globally and to perform other online services (Mokiwa & Phasha, 2012).Technology is central in facilitating learning for students with visual impairments (Mokiwa & Phasha, 2012).Therefore, interacting online with disable students and students from rural areas widens access and makes education open(accessible to the marginalised groups).Learning online using technology enables collaborative learning despite spatial separation, it makes students to not feel isolated (Mokiwa & Phasha, 2012).Students that have created a sense of community by connecting via networks are more inclined to persist than those students who feel secluded (Vignery, 2022). There are very few studies

conducted in South Africa regarding rural online students. Lehong (2019)'s University of South Africa study on rural students cited under-use of the Learning Management Systems and e-tutor platforms. Joubert and Snyman (2020) believe the scarcity of resources and connectivity challenges may be a reason for the under-use.

While most literature holds a general view that ICT plays a critical role in redressing past imbalances and bridging the gaps emanating from those imbalances, there is also a parallel conversation with contrasting views on online learning using ICTs. Söderström et al. (2012, p.2) argue that ODeL extends access to education to include the working class that cannot attend school full time, additionally it includes the disenfranchised and makes is an affordable alternative. Contrastingly, Awal et al., (2020) believe that the use of technology in online learning may increase costs and restrict access. Consequently, this study was conducted to understand the online learning support experiences of rural students from areas that are poorly connected, lack telecommunications infrastructure, are bombarded by load-shedding (power outages), and are socio-economically challenged. Openness, Open Distance e-Learning quality, efficiency, and prosperity can be achieved through proper student support (Afzaal & Ahmad, 2011).

3. Methodology

Study Objectives

The purpose of this research study was to explore how rural students perceive and engage with Open Distance e-Learning support, considering the concept of openness. This research study aimed to shed light on the experiences of rural students' support in the Open Distance e-Learning environment. The focus was on the availability and access to resources, pedagogical approaches, social interaction, and support, motivation, and engagement. Additionally, it looked at successes, challenges and inclusive nature of the educational opportunities provided. The findings could help inform policymakers, educators, and other stakeholders in improving ODeL initiatives for rural students, ultimately aiming to bridge the digital divide and promote equitable access to education. Openness in Open Distance e-Learning relates to the inclusivity and empowerment of students.

Research Design

The study utilized descriptive research design, through qualitative approach, to investigate online students' experiences who are embarked in the ODeL context. In depth analysis during the conduct of the study was also utilized in gaining deeper insight into student support regarding KwaZulu Natal (province) rural online students in the ODL context. It assisted the researcher to understand the issues related to the research that might have not been achieved if used a different approach (Creswell, 2014)

Research Instrument

Interviews are central in the case study (Denscombe, 2014). Johnson and Christensen (2012, p.202) state that "qualitative interviewing allows a researcher

to penetrate the inner world of another person and to gain an understanding of that person's perspective".

The interview type for this study was a focussed, semi-structured interview with open-ended questions. This provided flexibility and richness of data as participants were asked to clarify their responses giving the researcher deeper understanding of the phenomenon. This was chosen over other methods like questionnaires which, despite their ability to reach many participants, lack the probing ability which brings about richness and clarity in data.

Henning (2004, p.73) states that "the integrity of the interview hinges on the researcher's ability to collect all information emerging from the interview progress like gestures, facial expressions, intonation, and general body language". Should the researcher sense exaggeration from interviewees, the researcher can probe and corroborate the information provided (Denscombe, 2014). Additionally, Denscombe (2014, p.200) makes available a checklist to assist the researcher to notice if the interviewee is exaggerating such as, "checking data with other sources; checking the transcript with the informant; and checking the plausibility of the data and looking at the themes". In this study, data was verified in corroboration with other interviewees' data and double-checking transcripts with the informant as postulated by Yin (2009, p.109) that, "… a reasonable approach is to corroborate interview data with information from other sources". Staff at UNISA that deals with online learning support systems like myUnisa, e-tutoring, etc. were contacted for verification. Labels were used instead of names to protect participants' privacy.

Ethics Statements

All the participants gave informed written consent. The Ethics Research Review committee at the College of Education of the university (Ref: 2021_RPSC_084) gave ethical approval. Anonymity and confidentiality were obeyed during the study.

Study Sample

The participants for the study involved 2020 and 2021 registered students in the College of Education at the University of South Africa. These students were using the Learning Management System (LMS) to access discussion forums and other support tools like e-tutors. The 2021 registered students' selection was done to understand the experiences of students transitioning from high school (who are presumed to have not been exposed to online learning and ICT use) to higher education and those who have had a longer spell at the Open Distance e-Learning institution (2020 registered students).The sample size is from the rural parts of KwaZulu Natal-it was drawn from the 11 districts from UNISA registry(the students all were registered through the UNISA LMS(myUnisa)).

Data collection

In a case study interviews are central (Denscombe, 2014). The semi-structured interviews with open-ended questions were administered with (15) participants. Interviews were a once-off and lasted 30-45 minutes. These interviews were conducted by phone except for two face-to-face interviews strictly adhering to the

COVID-19 protocols. Inductive coding was used to identify themes from data because thematic analysis was employed to analyse data.

Data Analysis

The data was thematically analysed based on the process suggested by Braun & Clarke's (2020), which is the six-phase framework. The interviews were transcribed, and analysed, and based on the coded transcripts, six themes emanating from the data were identified and recorded. Verbatim quotations and thick descriptions were used to support data analysis to ensure transferability. Sharing this information with participants improved trust between the researcher and participants (Creswell,2014). The findings were triangulated through literature sources and verifications with the university staff, and the data was also verified with some interviewed participants (Creswell, 2014). This process involved coding and interpretation of some selected codes and resulted in a data-driven set of findings and a range of research questions.

Study Questions

The main research question for this study was: What are the rural students' experiences regarding support in an Open Distance e-Learning programme at selected in South Africa? To respond to this question, sub-questions were answered: (a)What are experiences of UNISA rural student teachers regarding lecturer-student engagement? (b) What are student teachers' experiences on Learning Management System (myUnisa) and lecturers' encouragement of interaction and participation in online discussions? (d) What recommendations can be made for the enhancement of learner support at UNISA in general, specifically for rural students?

Study hypotheses

According to Zawacki-Richter and Qayyum's (2019) and other researchers in Open Distance e-Learning space, the overall efficiency and success of online education in Open Distance e-Learning is reliant upon proper student support that fosters interaction amongst the student and lecturer, student and the institutions and its systems, and student and students. The hypothesis for this study is that the success of rural online students is dependent on the quality of online learning support given by the University of South Africa looking at variables such as learning resources, students' backgrounds, location, and computer literacy to ensure that everyone has access to education.

4. Findings

The participants were all from rural KwaZulu-Natal (KZN) and were registered in the College of Education engaged in Open Distance e-Learning via the University of South Africa's Learning Management System (LMS). They explained challenges they encountered during their e-learning experience. The participants were profiled using the following tags: Information and Communications Technology tools ownership, frequently used ICT tools/devices, and propinquity/nearness to the university campuses. The profile data showed that in terms of nearness to university campuses or offices, participants would have to travel at least (50 Km) to more than (150 Km) to reach

their nearest location of the university campus. It was found out that all participants had mobile phones while only (8) participants owned a laptop. However, the most used Information and Communications Technology tool was a cell phone. From the collected data, the findings are categorized into four key themes stemmed from the study when it comes to online learning support for rural students. They detailed the support programmes available to students, challenges encountered, and possible solutions to the cited challenges.

Theme 1: Prior computer literacy skills, internet access, and online support learning facilities

The study gained insight into the students' online habits as informed by their literacy skills they had prior to joining the university, access to internet, and online support facilities. Initial data revealed that the students were already at a disadvantage indicating that (73%) of the participants had never had ICT or computer training prior to joining the university. This is a disadvantage among them because ICT skills are a pre-requisite to migrate to online learning. Other than the above-mentioned challenges, more challenges were reported.

> Participant TA 3, interview, 26 November 2021: "……*Prior to joining the university, I had no computer skills as I had no formal training in high school or after high school, adjusting to working online was a challenge that felt like an additional extra module.*"

Additionally, the findings revealed that all participants preferred to utilise their cell phones to connect to the internet and the university's Learning Management System (myUnisa)

> Participant TA2, interview, 27 November 2021: "*I don't have a laptop, I use my phone, I can't really afford one, and basically my phone is my life.*" While participant TB15, interview, 27 November 2021: "*I have a laptop, for internet connection I prefer to use a phone*".

The interview excerpt above highlights the challenge of connectivity the participants experience as they are in rural areas where the signal is very weak and at times unavailable because of lack of telecommunications infrastructure. Interestingly, the finding revealed that cell phones helped to widen access. Participants preferred to use cell phones to connect to the internet, engage with lecturers and online lessons, and to connect with their peers. Their preference of cell phones stems from the fact that cell phones connect easily to the internet when compared to computers because they require less bandwidth connections. This means that to try and get around the challenge of connectivity, participants resort to using a cell phone as it connects easily. Their online habits were influenced by a myriad of challenges. The challenges cited by the participants ranged from lack of computer facilities nearby, poor connectivity, load shedding (power outages), high data prices to Covid-19 which made it even more difficult for the participants as they had to sit for online exams and, this meant traveling to internet cafes just write an exam due to poor connection at home. Excerpts below are quoted relevance from the participants to support the findings of the study.

> Participants TA6 and TB12 stated, in frustration, interview, 28 November 2021: "*Our network is too poor, this affects me negatively, especially when I have to write a paper, before writing I have to go to town*

> *to write, and when we have load shedding it is even worse."* While Participant TA4 lamented, an interview, 27 November 2021: *"We reside in rural areas, zero network here, load shedding and facilities are very scarce and I find data and airtime very expensive, the new invigilator apps just make things worse when I have to use them during my online exams*".

Despite all the challenges students faced, they were still able to continue with their online learning, cell phones played a big part in ensuring that these students are not left out. Cell phones made sure they had access to materials and discussion forums on myUnisa, connect to their peers and lecturers.

Theme 2: Awareness and views of existing online learning support developments at the university: Computer training courses and workshops (e-tutoring) and mobile university Wi-Fi buses, the university formed partnerships.

The findings revealed that most of the participants were not aware or did not know about the Information and Communications Technology support facilities nor did they know about the university's formed partnerships with other private organisations. Excerpt below supports this claim.

> Participant TA 1, interview, 28 November 2021: "*You have to go to the café to access the facilities, there is no 'university' office close by, I think the closest where you can get help is Durban, which is like 3 hours away, I've never heard of any university's facility, even if you go to these other campuses, they will tell you to go to Durban. I have never been able to attend those e-tutor classes either because of poor network*". Participant TA 4 added, interview, 27 November 2021: "*I don't know of any network deals or partnership with network companies because when I log onto the internet, I still use data. I have never attended the university's e-tutors either."*

University of South Africa has partnered with the two biggest cell phone companies to provide zero-rated internet access for selected sites, and they have also partnered with private companies to give students free access to computer and internet access centres (Mashile et al., 2020). It was also revealed that those who were aware of the facilities did not visit the facilities or make use of them. Few participants who were aware and had made use of these facilities before COVID-19 were also no longer using them because COVID-19 regulations during lockdown prevented the use of libraries and UNISA campuses.

> Participant TB 15, interview, 27 November 2021: "*I am aware that there are UNISA centres for computer use and internet as well as e-tutors, but since it is a lockdown, we are not allowed to use access them. I don't attend e-tutors, despite the invitations, because of a poor or weak network where I live."* Participant TB13 added: *I've heard about e-tutor services, but I don't remember attending any e-tutor services, I don't use them. I don't attend them because they take a lot of data and UNISA centres are closed because of lock down (COVID-19 regulations), so I cannot attend there either.*

Theme 3: Students' experiences of navigating the UNISA's Learning Management System

The Open Distance e-Learning's Learning Management System's usability should allow easy access and be user-friendly and should adapt and recognize that students nowadays are more familiar with mobile technologies like social networks, students are more inclined to use social networks for learning (Mashile et al., 2020). The learning management system (LMS) may therefore act as a barrier to online learning (Mashile et al., 2020). The university uses its learning management system (LMS) to connect students to platforms such as discussion forums, e-tutors and connects the students to the institution and other students. However, many students failed to attend their online classes due to common reason stated below.

> Participant TA2, interview, 27 November 2021: *"I hardly attend e-tutors because of poor network or signal, I seldom visit discussion forums because it takes lecturers forever to respond to our queries, and they feel a bit impersonal, if you lag behind it is difficult to catch-up."*

This sentiment was echoed by all the students who were still new to the system (registered in 2021) while those registered in 2020 and before felt that discussion was very useful and had a slightly positive experience than the new students.

> Participant TB15, interview, 27 November 2021: "*Discussion forums are very useful, that's where I tracked down other students I could collaborate with in my studies, on the platform ideas and opinions are posted and discussions take place, one just has to read and catch-up if they happen to fall behind."*

Theme 4: Challenges regarding working online.

Rural students encounter many challenges regarding connectivity. Oyo and Kalema (2014) state that challenges comprise of lecturers' unreadiness for online teaching, inadequate electronic content developed locally, low bandwidth internet connectivity, lack of learning devices, computer illiteracy, high enrolment numbers at tertiary and load shedding(unreliable power supply). Similarly in this study participants lacked sufficient Information and Communications Technology skills and sufficient technological gadgets, and experienced poor network coverage. Most of them express the same sentiments as quoted below.

> Participant TA 9, interview, 27 November 2021: "*I struggle with networks, and only (network provider) is better, but when it is raining even (network provider) doesn't connect. Load shedding (power outage) is also a problem nowadays, phones and laptops run out of batteries and cafés close their doors during load shedding."*

The participants indicated how they were copying with the online learning challenges and proffered some solutions to their issues which are unique to them. Table 1 below highlights them.

Table 1. *Summary of the findings in terms of challenges and copying mechanisms, and proposed solutions.*

Summary of findings

Challenges of learning online	**Possible solutions and coping mechanism by rural students**
Lack of ICT devices like laptops, this challenge in particular affecting rural students adversely during online exams	Students rely on cell phones to connect to the university's learning management system and to connect with fellow students on social media for information-sharing. Writing online exams though still requires a laptop, hence students visit cafés which are distant and noisy.
Connectivity challenges, weak signal impeding synchronous learning (i.e., online classes, e-tutoring)	Students opt for cell phones, they use less bandwidth, opt for asynchronous learning.
Computer illiteracy.	UNISA offer computer workshops and learning management system orientation
Unawareness of online learning support initiatives like e-tutor and Wi-Fi-buses leading to low participation.	Improved advocacy of such initiatives.
Load-shedding (intermittent power supply) in South Africa affects students	Government should work on stabilising the power grid.
The triangulation process (comparison of students registered in 2020 and those registered in 2021) showed that the latter used UNISA online services less than those registered in 2020	The longer students are exposed to UNISA online support services and trainings the more they would use services such as e-tutoring and discussion forums.

5. Discussion

The findings of this study in this section are summarized into the following themes: (a) Rural students' ownership of online devices, access to internet, internet facilities and connectivity; (b) rural students' awareness and experience of the university's online support programmes; (c) rural students' experiences of engaging with the university's Learning Management System (LMS); (d) and recommendations regarding online support to widen access to be inclusive of all the different groups of diverse background and geographical locations, especially rural students.

The study findings revealed a lot about ODeL being a significant driver in widening learning access for rural students. It also, however, revealed a lot of challenges associated with e-learning for this group of students. Overall, the study found out that Open Distance e-Learning offers a flexible manner of learning for individuals and previously disadvantaged groups from geographical locations that do not have universities and are difficult to reach such as rural areas. It accommodates those who could not fit into traditional universities because of different socio-economic reasons like high prices of higher education compared to traditional face-to-face universities, and strict points-based admission by most tertiary institutions amongst others. This finding is in line with Brown et al. (2013)

notion that the bulk of students who attend higher education come from lower socioeconomic backgrounds and use government bursaries and loans. Subsequently, Open Distance e-Learning is conceived as an apparatus to increase participation rates in higher education. Baijnath (2018) pointed out that ODeL widens access to internet without the associated increase in costs. He elaborates that Open Distance e-Learning students funded by government are given a budget 50% less than traditional students who significantly lowers the costs.

Consequently, the study's conclusion and implications emphasise that Open Distance e-Learning has a potential of broadening access to disenfranchised students. ODeL can accommodate those that work full time and those suffering from scarcity of resources as a result of past political exclusions. It can also lower the costs of teaching and propel students to greater heights if targeted online support is given to students in rural areas and in general. It was observed that cell phones played a big part in ensuring participants remain resilient towards their studies. A cell phone became the bridge between the students and the university, student and learning material, and student and other students. A cell phone therefore became central to the students' online learning.

The above extract, therefore, also contributes to the heated discourse amongst authors such as Awal *et al* (2020), Söderström et al (2012), Baijnath (2018) and others. The study confirmed Söderström et al's (2012, p. 2) claim "the rationale behind the use of online learning is to broaden access, accommodate those that work full time and the disenfranchised, and to lower the costs of teaching". It disagrees with Awal et al's (2020) assertion that the use of technology in education would increase costs and possibly restrict access.

Rural students' ownership of online devices, literacy skills, access to internet, internet facilities and connectivity

Under this theme it was understood that by virtue of being rural students, it means they are far away from big cities that have the university campuses. Rural students may not be able to use other online sites or facilities because of network challenges they experience, and the fact that they must travel to get to university campuses or centres or even to get to cafés is a challenge for them. Africa has another challenge: funding and poor infrastructure emanating from a long political history of colinisation and apartheid which saw the masses being marginalized from taking part in the economy. These conditions have left many regions and rural areas under-resourced (du Plessis & Mestry, 2019). The finding was also supported by Mashile et al (2020) who found that the communications infrastructure in South Africa is not even-handedly developed and access to broadband is highly expensive. Fibre is for select few urban areas and mostly rural areas are excluded in terms of development.

The study revealed that cell phones were used as a copying mechanism to mitigate poor network and lack of telecommunications infrastructure. All the participants reported that they all own a cell phone and use it for online learning. It was found that a mobile phone can easily be moved around to look for signal because it is portable, and as it uses less bandwidth (it was easy to connect using it). This finding is also supported by Deb (2011) who found that mobile technology has a

potential to reach a wider population of the developing countries because less bandwidth is required to connect. This seems to be the most viable way to reach billions living in the rural areas of the developing countries (Deb, 2011).

Rural students' awareness and experience of the university's online support programmes: Computer training courses and workshops (e-tutoring) and mobile Wi-Fi buses, university's formed partnerships

Based on the findings from the collected data it was revealed that even though some students knew about e-tutoring they did not use it. This indicated that they might not have grasped their true purpose or simply did not know about them. This, thus, necessitates the need to have regular training and orientation beginning of the year and as and when the need arises during the year to make all the students aware of the importance of e-tutor and how they will be rolled out throughout the year. Joubert & Snyman (2020) postulate that e-tutoring is a link between e-tutors and students as well as e-tutors and lecturers. Thus, based on the finding above, the link between the student and the lecturer is missing. Additionally, according to De Metz and Bezuidenhout (2018), the engagement of the distance education student with the institution through e-tutoring builds a sense of belonging and gratification with online learning in the ODeL. According to the findings was wanting as well as it was reported that only 13% used e-tutoring.

Travers (2016) posits that student support given at traditional institutions should be at the same level and quality as those given to distance and online learning students. Likewise, University of South Africa on capitalised student support programmes with huge amounts to guarantee that the students' learning experiences are improved.

Data shows that (46%) of the participants were not aware or did not know about these ICT support facilities nor did they know about university's formed partnerships with private organisations. It also indicates that while only (20%) were aware of these support facilities, they did not visit make use of them. Only (34%) of the participants were aware and made use of these facilities. This means that these students were either unaware of these facilities in their area or they did not exist at all. Either way, it is evident that a lot still needs to be done to reach all these rural students and provide them with the support they need in order to access education online.

Despite University of South Africa's efforts to communicate the support programmes, data still indicates that very few (34%) knew about all the support programmes and the university formed partnership and an even lesser (13%) number knew and used e-tutoring. The unawareness could be attributed to the insufficient orientation and advocacy at the beginning and during the year to make the students aware of all the support services available to them before they start with their academic year. Mashile et al. (2020) states that University of South Africa (UNISA) partnered with major cell companies or network providers to zero rate some students' online learning sites, they also partnered with digital access centres to allow students a chance to access computers and internet at no cost to students. It is worth mentioning that if one does not have a network coverage,

even the zero-rated sites will not work because they still require one to switch on their data.

Finally, the comparison done of 2021 registered students (presumed to have less exposure to online learning) (4) participants were unaware of e-tutoring services, the other (4) students knew about e-tutoring but admitted that they have never used it despite knowing about its (e-tutoring) existence. The 2020 registered students (presumed to have had more exposure to online learning) on the other hand had (2) participants who did not know about e-tutoring and three that knew about it but never used it while only two knew about it and used it. The same triangulation was done regarding other support programmes available to students. The picture that emerged here was that the longer the students stay at the university the more likely they were to use these support programmes, this is because the only two that used the e-tutoring were students that had been with the university longer (2020 registered). They had more computer skills and knowledge around UNISA support systems.

Rural students' experiences of engaging with the university's Learning Management System.

The findings revealed that the university's LMS was a very important tool that linked the students with the university. Participants appreciated the LMS as they collaborated on discussion forums and found it user-friendly but did not use it optimally. This finding was also in line with research done by Lehong (2019) that tested the usability of the university's learning Management Systems (LMS) concluded that they are usable but were not used optimally by the students. Additionally, some students needed additional interaction that may not necessarily be found on the university LMS but could exist on social media platforms like WhatsApp, Telegram, Facebook, YouTube, etc. The findings above indicated that students felt isolated as they were unaware of other university's support programmes like e-tutoring and or discussion forums or programmes were not available to them or they had connectivity challenges that prevented use, social media then became a tool that gave them the sense of community. This finding is in line with Mbatha (2014)'s claim that Open Distance e-Learning institutions should be open to the idea of embracing social media or Web 2.0 applications (WhatsApp, Facebook, Telegram and YouTube.) as central online learning tools. Notably, these social sites are all easily accessible on cell phones and require low bandwidth as compared to synchronous online classes which are impossible with intermittent connectivity.

Recommendations regarding online support and to offer solutions to challenges.

The commendations made in this study can be implemented by the university in conjunction with government and other private stakeholders. The first umbrella commendation revealed in this study is that rural students have unique challenges brought about by the scarcity of resources, lack of telecommunications infrastructure, lack of pre-requisite computer skills required to work online, load shedding (power outages) and lack of facilities. This means that using assistive devices is challenging for this group of students, hence online support programmes should not be universal but should be tailored to also suit marginalized students. This concern was also raised by Machika (2013) who

remarked that universal assumption regarding online support may have negative effects on rural students who suffer from dearth of resources and connectivity issues.

Rural areas generally are under-resourced. This is a legacy of apartheid, a political system that marginalized certain communities and prioritized the development of communities where only whites were residing and neglected vast majority of blacks' dwellings (Nyerere, 2016). The study revealed that rural students (those that had computers) could not use their computers but preferred to use cell phones as they require less bandwidth to connect to the internet, unlike computers. This finding was also highlighted in Deb (2011) and Mashile et al.'s (2020) studies. The commendation from participants was that the government should play its part in redressing past imbalances by ensuring that rural areas are developed and that they should be given a priority. The participants also recommended that digital centres and libraries be built in rural areas so that they can have access to computers and internet. This was recommended considering the finding that the participants had not heard of any digital facilities offered by the university and had not been visited by the digital Wi-Fi Buses from the university. Mashile et al. (2020) state that there is digital divide in higher education in the Open Distance e-Learning environment because rural areas are not properly equipped with the telecommunications infrastructure, and rural students are still socio-economically challenged-they do not have resources like digital facilities and cannot afford technological assistive devices.

Considering the finding about the university students not being aware of the online support programmes like e-tutoring and under-using of discussion forums and or e-tutoring, it was recommended that there be an orientation at the beginning of each academic year or semester to ensure that all students are aware and benefit from online support programmes offered by the institution. It was also recommended that these support programmes be tailored to the needs of rural students and not be generalised. This is in line with De Metz & Bezuidenhout's (2018) assertion who asserted that e-tutor functions cannot be generalised based on a special sense of e-learning. Consequently, this study revealed that a recommendation that could be made regarding online support programmes by future researchers should put a cell phone at the centre. Programmes should be made to be cell phone compatible so that access reach rural students who, according to the findings of this study, all preferred to use a cell phone to connect to the institution and to connect to the internet as it uses less bandwidth and for its mobility which enables them to move it around to get a better signal as opposed to a computer which they don't have anyway. Therefore, material in cell phone formats like PDFs instead of videos with many megabytes can be developed for the convenience of students. This was also found in the international study done by Deb (2011) on Open Distance e-Learning in developing countries. Deb (2011, p.37) states that "using multimedia facilities like videos, audios, graphics, and interesting textual descriptions, it is possible to reach the remote locations of the world where computer technology has not reached yet". There is still a wide area not covered by computer and internet technology in South Africa.

The preference of social media sites by some students revives the discussion that Learning Management Systems should be designed in such a way that resembles these social media sites (Mbatha, 2014). Andrews et al. (2011) state that more students are more familiar with social media and have the inclination to interact more, therefore the learning management system should be reshaped to resemble the Web 2.0s.

Finally, it was recommended that all students should be orientated and trained on any new online support developments like the use of new programmes like Iris Invigilation application (an invigilation application that students use for their online examinations) and on University of South Africa's Learning Management System (LMS) n in general to ensure that the students optimally utilize it.

6. Conclusion

The study sought to investigate students' experiences of online learning support in the open distance learning environment with special focus on openness. The study looked at rural students in KwaZulu-Natal as rural areas are presumed to have scarce resources, socio-economic challenges, and poor telecommunications infrastructure. Data analysis revealed that, despite all the challenges faced by rural students, they embraced online learning and recognise it as an extended opportunity for them to be part of the higher education community and as a vehicle that could potentially launch their careers and propel their dreams to greater heights. The data also revealed a myriad of challenges that students encounter when learning online. These challenges will require universities to tailor support to the needs of different groups of students. Institutions should avoid a blanket approach in their support programmes as this may further entrench digital divides. Lastly, institutions and policy makers should put cell phones at the centre of their planning when they design policies and Learning Management Systems and lessons. They should make the LMS compatible to cell phones and upload material that is also compatible with smartphones. A cell phone should have the same significance as a textbook, and government should subsidise universities to include phones in the study packs. This is because cell phones were found to be the most preferred gadget that proffers a learning opportunity to students from the poorly connected areas like rural areas.

7. Recommendations

Government should heed the call of our South African constitution which advocates for students' equal opportunities to quality higher education. Consequently, the government should fix the issue of load shedding (intermittent power supply) in this country, it is destroying all the sectors including the education sector. Secondly, the government should, in conjunction with private stakeholders, build telecommunications infrastructure. It should partner with cell phone companies to make sure there are network towers erected in all corners of our rural communities. Lastly, the government should again partner with cell phone network companies and provide affordable data for the students, and this should be done to ensure that online learning is not used purely for profits by capitalists as suspected by some authors. The lack of connectivity due to scarce resources and expensive data creates barriers to learning for rural students.

The university, in partnership with government and private stakeholders, should collaborate and build digital centres in rural communities. They should market these efficiently so that all students are aware of them. The university and government of South Africa should buy or subsidize smartphones for students the same way they try to do with laptops, this is considering the finding that the gadget that helps Open Distance e-Learning widen access is a cell phone. Accordingly, they should tailor support with the cell phone in mind thereby developing multimedia material that is compatible with cell phones. The study also recommends that the institution seriously consider harnessing all the social media enthusiasm of students nowadays who resort to using sites like WhatsApp to fulfil their need to interact more as they feel isolated on the university LMS. It is therefore recommended that the university remodels its LMS to resemble social media or incorporate WhatsApp on the platform and make it a formal learning tool.

The study recommends ICT classes and orientation for new students to get them accustomed to the online systems at the university as they have no background of working online. Finally, all students at the university should be trained on how to use all newly developed online developments that can alter their destiny like Iris invigilation application (online examination invigilator application) amongst others. The training should be blended- online and should be cell phone compatible and varied and face-to-face given the connectivity challenges discussed above.

8. Limitations

The limitation of this study in terms of scope was that the participants were selected from only one faculty (faculty of education) based in rural KwaZulu-Natal. Data was collected qualitatively with (15) participants only, which may not be a sufficient sample representative to 100% guarantee transferability of all the districts in KwaZulu-Natal. Despite these limitations, the findings can still be used to tailor online support according to the needs of rural students in KwaZulu-Natal, and it can serve as a yardstick study for other researchers.

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